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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/627,421	07/27/2000	Atsushi Murashima	017446/0305q	1185

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FOLEY AND LARDNER
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3000 K STREET NW
WASHINGTON, DC 20007

EXAMINER

AZAD, ABUL K

ART UNIT PAPER NUMBER

2654

DATE MAILED: 09/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/627,421	MURASHIMA, ATSUSHI	
	Examiner	Art Unit	
	ABUL K. AZAD	2654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-18 and 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-18 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This action is in response to the communication filed on July 12, 2004.
2. Claims 10-18 and 20- are pending in this action. Claims 10 and 20 have been amended. Claims 1-9 and 19 have been canceled.
3. Applicant's arguments with respect to claims 10-18 and 20 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 10, 11, 14-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nomura et al. (CA 2,112,145) in view of applicant's admitted prior art.

As per claim 10, Nomura teaches, "a speech signal decoding apparatus characterized by comprising":

"a plurality of decoding means for decoding information containing at least a sound source signal, a gain, and filter coefficients from a received bit stream" (Page 5, line 17-25);

"identification means for identifying voiced speech and unvoiced speech of a speech signal using the decoded information" (page 6, lines 11-28);

“smoothing means for performing smoothing processing based on the decoded information for at least either one of the decoded gain and the decoded filter coefficients in only the unvoiced speech identified by said identification means” (Page 7, lines 1-13).

Nomura does not explicitly teach, “means for obtaining an excitation signal by multiplying the decoded sound source signal by the decoding gain after performing the smooth process and means for decoding the speech signal by deriving a filter having the decoded filter coefficients by the excitation signal obtained from the means for obtaining”. However, the applicant acknowledges that it is well-known, “means for obtaining an excitation signal by multiplying the decoded sound source signal by the decoding gain after performing the smooth process and means for decoding the speech signal by deriving a filter having the decoded filter coefficients by the excitation signal obtained from the means for obtaining” (Page 4, line 13 to page 6, line 16). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement this well-known process into Nomura’s invention because one ordinary skill in the art would readily recognized that would provide better perceptual quality of speech at the out put.

As per claim 11, Nomura teaches, “wherein said apparatus further comprises classification means for classifying unvoiced speech in accordance with the decoded information, and said smoothing means performs smoothing processing in accordance with a classification result of said classification means for at least either one of the decoded gain and the decoded filter coefficients in the unvoiced speech identified by said identification means” (page 11, lines 15 to page 12, line 10).

As per claim 14, Nomura teaches, "wherein said decoding means decodes information containing pitch periodicity and a power of the speech signal from the received bit stream, and said identification means performs identification operation using at least either one of the decoded pitch periodicity and the decoded power output from said decoding means" (page 7, line 26 to page 8, line 15).

As per claim 15, Nomura teaches, "wherein said decoding means decodes information containing pitch periodicity and a power of the speech signal from the received bit stream, and said classification means performs classification operation using at least either one of the decoded pitch periodicity and the decoded power output from said decoding means" (page 7, line 26 to page 8, line 15).

As per claim 16, Nomura teaches, "wherein said apparatus further comprises estimation means for estimating pitch periodicity and a power of the speech signal from the excitation signal and the decoded speech signal, and said identification means performs identification operation using at least either one of the estimated pitch periodicity and the estimated power output from said estimation means" (page 7, line 26 to page 8, line 15).

As per claim 17, Nomura teaches, "wherein said apparatus further comprises estimation means for estimating pitch periodicity and a power of the speech signal from the excitation signal and the decoded speech signal, and said classification means performs classification operation using at least either one of the estimated pitch periodicity and the estimated power output from said estimation means" (page 7, line 26 to page 8, line 15).

As per claim 18, Nomura teaches, "wherein said classification means classifies unvoiced speech by comparing a value obtained by the decoded filter coefficients from said decoding means with a predetermined threshold" (page 7, line 26 to page 8, line 15).

As per claim 20, it is interpreted and thus rejected for the same reasons set forth in the rejection of claim 1 above.

6. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nomura et al. (CA 2,112,145) in view of Applicant's admitted prior art as applied to claims 10 and 11 above, and further in view of Takada (US 6,088,670).

As per claims 12 and 13, Nomura does not explicitly teach, "wherein said identification/classification means performs identification/classification operation using a value obtained by averaging for a long term a variation amount based on a difference between the decoded filter coefficients and their long-term average". However, Takada teaches, "wherein said identification/classification means performs identification/classification operation using a value obtained by averaging for a long term a variation amount based on a difference between the decoded filter coefficients and their long-term average" (col. 8, lines 13-53). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use difference between the short-term value with a long-term average value to distinguish voiced speech unvoiced speech and noise because Takada teaches his invention is to provide a voice detector

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which capable of accurately discriminating voiced/unvoiced frames, even when there are rapid changes in noise level (col. 2, lines 46-49).

Contact Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Abul K. Azad** whose telephone number is **(703) 305-3838**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richemond Dorvil**, can be reached at **(703) 305-9645**.

Any response to this action should be mailed to:

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Or faxed to:

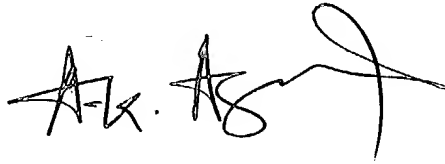
(703) 872-9314

(For informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

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Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center's Customer Service Office at telephone number **(703) 306-0377.**

A handwritten signature in black ink, appearing to read 'A-K. Azad', with a large, stylized flourish extending to the right.

Abul K. Azad

September 14, 2004